LESSON TITLE: MANAGE SPEED

A. TRAINING OBJECTIVE

TASK: Know the procedures to manage vehicle speed effectively in response to various conditions.

CONDITIONS: Given instruction in a classroom.

STANDARD: Correctly answer verbal questions when called upon.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS

1. Training time: Recommended instructional time is 0.5 hours.

2. Training location: Scheduled classroom.

3. Training type: Conference.

4. Students: Scheduled personnel.

5. Principal and assistant instructors required: One primary instructor for each class of 20 students.

6. Training aids and equipment: Overhead projector, transparencies, and screen.

7. References: FM 21-305.

D. SEQUENCE OF ACTIVITY

1. **INTRODUCTION**.

a. **Interest Device**. Good timing is critical to safe driving. To develop into a conflict or cause a collision, a potential hazard must move into your immediate path of travel. Knowing how much or whether to decrease or increase speed, depends on how well you can judge when and where other hazards might close in or come closest to your path of travel.

b. **Tie-in**. Speed saves time, yet speed also can create problems relating to managing time and space. Speeding is the major cause of fatal traffic accidents.

c. **Lesson Objective**.

ACTION: After this lesson the student will know the procedures to manage vehicle speed effectively in response to various conditions.

CONDITIONS: Given instruction in a classroom.

STANDARD: Correctly answer verbal questions when called upon.

d. **Procedures**.

(1) ***Explanation***.

(2) ***Summary***.

2. **EXPLANATION**.

Transparency 4-60

a. **Manage Speed**. To understand speed management, we must first define speeding. Speeding is:

- Exceeding the legal or posted speed limit.
- Driving too fast for conditions.

Transparency 4-61

b. **Conditions Affecting Safe Speed**. There are four conditions which affect the maximum safe speed.

(1) ***Traction***:

- Traction refers to the tire's grip on the road.
- Decreased traction means increased stopping distance.
- Adjust speed to the conditions that decrease traction such as slippery roads.

(2) ***Visibility***:

- Must be able to stop within the distance that you can see.
- Adjust speed to the conditions that interfere with visibility such as rain, fog, snow, and darkness.

(3) ***Traffic conditions***:

- Need to maintain a safe space cushion in traffic.
- Adjust speed to the volume and flow of traffic to keep a safe cushion.

(4) ***Road characteristics***:

- The shape of the road affects traction and visibility.
- Adjust speed for curves and hills.

TRANSITION: Vehicle speed is the most critical factor in stopping distance.

Transparency 4-62

c. **Speed and Stopping Distance**. Three things add up to total stopping distance:

(1) ***Perception distance***. The distance the vehicle goes from the time your eyes see a problem to the time your brain knows it.

- About 3/4 second perception time for an alert driver.
- In 3/4 seconds at 55 MPH, you travel 60 feet.

(2) ***Reaction distance***. The distance traveled from the time your brain tells your foot to move from the accelerator until your foot pushes the brake.

- Reaction time of 3/4 second for average driver.
- Accounts for an additional 60 feet traveled at 55 MPH.

(3) ***Braking distance***. The distance it takes to stop once the brakes are applied.

- At 55 MPH it will take about 4 1/2 seconds to stop.
- On dry pavement with good brakes, it takes about 150 feet to stop.

(4) ***Total stopping distance***.

- At 55 MPH it will take about 6 seconds to stop.
- These add up to about 270 feet (60+60+150=270) or a little less than the length of a football field. (Heavy and large vehicles take a little longer to stop.)

Transparency 4-63

d. **Effect of Speed on Stopping Distance**.

(1) If you double your speed, it will take you about four times the distance to stop your vehicle.

(2) By slowing down, you gain some reduced braking distance.

e. **Speed and Distance Ahead**.

(1) Be able to stop within the distance you can see ahead.

(2) Other conditions, or fog and rain, may require you to slow down.

(3) At night, when you use low beams, slow down.

f. **Speed and Traffic Flow**.

(1) The safest speed in heavy traffic is within 5 MPH of the prevailing speed of traffic.

(2) Keep a safe following distance. If following distances are decreased, back off to allow the gap to increase.

(3) If you go faster than the speed of other traffic:

- It increases the chance of a crash.
- It is more tiring.

(4) The safest and easiest speed (but legally) is going with the speed of other vehicles.

Transparency 4-64

g. **Matching Speed to the Road Surface**.

(1) You must have traction to steer or brake a vehicle.

(2) Traction is friction between the tires and the road.

(3) The following road conditions reduce traction and call for lower speeds:

- Slippery roads make the vehicle harder to turn and cause you to take longer to stop.

- Wet roads can double stopping distance. Reduce speed by about one third (such as slowing down from 55 MPH to about 35 MPH).
- On packed snow, reduce speed by a half or more.
- On ice, stop your vehicle as soon as possible.

Transparency 4-65

(4) On Slippery roads.

- *Shady areas*. These areas will remain icy and slippery longer than unshaded areas.
- *Bridges*. Bridges will freeze before the road. Freezing will occur when the temperature is close to 32 degrees F.
- *Melting ice*. Melting ice is more slippery than unmelting ice.
- *Black ice*. Black ice is clear enough that you can see the road underneath. Drive with caution if the temperature is below freezing and the road looks wet.
- *Vehicle icing*. Vehicle icing is when the vehicle or parts are covered with ice. If the vehicle has ice on it, then probably the road surface is starting to ice up.
- *Rains*. The roads are very slippery right after it starts to rain.
- *Hydroplaning*. This may happen to a vehicle when it goes over wet roads.

  # Tires lose road contact and have little or no traction.
  # Hydroplaning is more likely to happen when tire pressure is low and tread is worn.
  # Can occur at speeds as low as 30 MPH if there is a lot of water.
  # Gradually, release the accelerator and shift to neutral to slow the vehicle.
  # Do not use the brakes to slow down.

Transparency 4-66

h. **Speed and Curves**.

(1) Adjust speed for curves.

(2) Taking a curve too fast involves two things:

- Wheels can lose their traction and continue straight ahead.
- Wheels may keep traction and vehicle may roll over.

(3) Slow down before entering a curve.

- Braking in a curve may cause a skid.
- Most exit ramps for interstate highways are curved to cause drivers to slow down before merging with slower moving traffic.

Slow to the appropriate speed for exiting the highway. (The posted speed limit is for cars; drivers of heavier vehicles generally must slow down 10 to 15 MPH less than the posted speed limit.)
Prepare to stop at the bottom of the exit.

3. **SUMMARY**.

Transparency 4-67

a. **Recap Main Points**. Call on students to answer questions presented on Transparency 4-67.

b. **Allow for Questions**.

c. **Clarify Questions**.

d. **Give Closing Statement**. Speed limits are based on ideal conditions, visibility, and traffic. Posted speed limits do not tell you what speed to drive. They only say you cannot travel faster than the speed shown. By law, you must go slower if conditions make the posted speed unsafe.

E. SAFETY RESTRICTIONS. None.

F. ADDITIONAL COMMENTS AND INFORMATION. None.